

AMENDMENTS TO THE CLAIMS:

This listing of the claims below will replace all prior versions and listing of claims in this application.

1. (Currently Amended) A method for inducing differentiation of cardiomyocytes from stem cells, comprising culturing stem cells in the presence of a substance that ~~inhibits~~ inhibits BMP signaling to induce differentiation.
2. (Previously Presented) The method according to Claim 1, wherein the step of culturing stem cells to induce differentiation comprises a step of forming embryoid bodies by floating aggregation culture.
3. (Currently Amended) The method according to Claim 1, wherein the step of culturing stem cells to induce differentiation comprises a step of co-culturing with feeder cells.
4. (Currently Amended) The method according to Claim 1, wherein the step of culturing stem cells to induce differentiation comprises a step of plate culturing on a culture container.
5. (Currently Amended) The method according to Claim 1, comprising a step of treating the stem cells with the substance that ~~inhibits~~ inhibits BMP signaling during the differentiation-inducing stage.
6. (Currently Amended) The method according to Claim 1, comprising a step of treating the stem cells with the substance that ~~inhibits~~ inhibits BMP signaling during pre-differentiation stage.
7. (Currently Amended) The method according to Claim 1, comprising a step of treating the stem cells with the substance that ~~inhibits~~ inhibits BMP signaling during pre-differentiation stage, and a step of treating the stem cells with the substance that ~~inhibits~~ inhibits BMP signaling during the differentiation-inducing stage.
8. (Currently Amended) The method according to Claim 1, wherein the substance that ~~inhibits~~ inhibits BMP signaling is a BMP antagonist.

9. (Previously Presented) The method according to Claim 8, wherein the BMP antagonist is Noggin, Chordin, fetuin, follistatin, sclerostin, DAN, Cerberus, gremlin, Dante or related proteins thereof.
10. (Previously Presented) The method according to Claim 1, wherein the stem cells are mammalian-derived cells having the ability to differentiate into cardiomyocytes in vitro.
11. (Original) The method according to Claim 10, wherein the mammalian-derived cells having the ability to differentiate into cardiomyocytes are pluripotent stem cells or cells derived therefrom.
12. (Original) The method according to Claim 11, wherein the pluripotent stem cells are embryonic stem cells, cells with a similar morphology to embryonic stem cells, embryonic germ cells, or multipotent adult progenitor cells.
13. (Original) The method according to Claim 12, wherein the pluripotent stem cells are embryonic stem cells.
14. (Previously Presented) Cardiomyocytes obtained by the method according to Claim 1.
15. (Currently Amended) The method according to Claim 5, comprising treating the stem cells with the substance that inhibits inhibits BMP signaling during the first five days of the differentiation-inducing stage.
16. (Currently Amended) The method according to Claim 5, comprising treating the stem cells with the substance that inhibits inhibits BMP signaling during the first three days of the differentiation-inducing stage.
17. (Currently Amended) The method according to Claim 7, comprising treating the stem cells with the substance that inhibits inhibits BMP signaling during pre-differentiation stage, and a step of treating the stem cells with the substance that inhibits inhibits BMP signaling during the first five days of the differentiation-inducing stage.

18. (Currently Amended) The method according to Claim 7, comprising treating the stem cells with the substance that ~~inhibits~~ inhibits BMP signaling during pre-differentiation stage, and a step of treating the stem cells with the substance that ~~inhibits~~ inhibits BMP signaling during the first three days of the differentiation-inducing stage.